

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P545877

Luminaire Tested: **FMR-12-4-LD4-1HI-40-UNV-93-96-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P545877
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-12-4-LD4-1HI-40-UNV-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

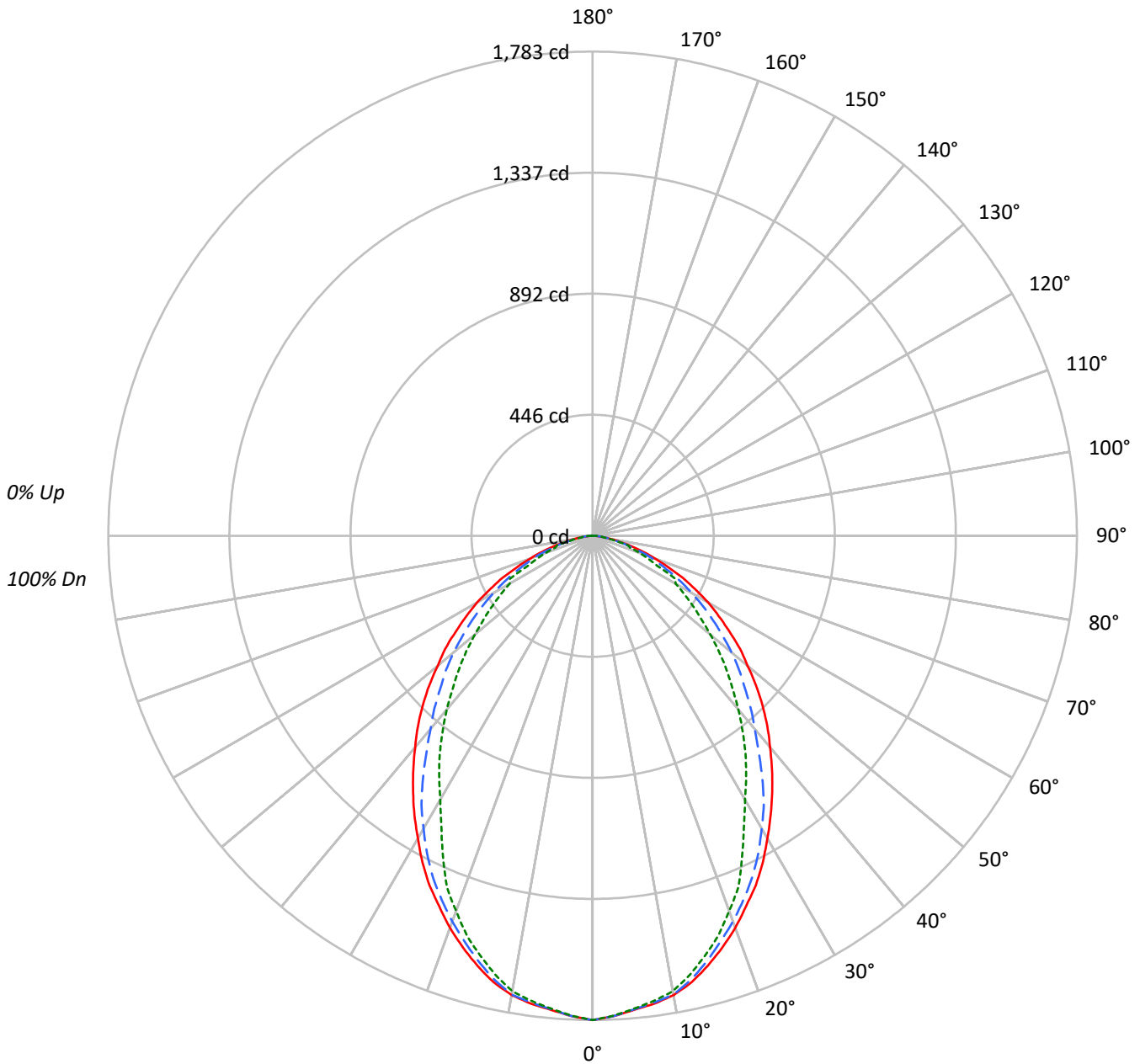
Lumens per Lamp: N/A
Luminaire Lumens: 3501.0 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4799	4799	4799
5°	4734	4728	4723
10°	4693	4687	4653
15°	4566	4520	4457
20°	4399	4328	4210
25°	4218	4126	3869
30°	3998	3869	3485
35°	3786	3576	3224
40°	3570	3259	2933
45°	3366	3013	2652
50°	3116	2797	2365
55°	2883	2534	2118
60°	2641	2264	1897
65°	2323	1982	1680
70°	1914	1736	1427
75°	1522	1329	1393
80°	1023	959	894
85°	636	763	892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.0	4.7
10°-20°	455.6	13.0
20°-30°	630.7	18.0
30°-40°	672.5	19.2
40°-50°	613.6	17.5
50°-60°	480.7	13.7
60°-70°	313.3	8.9
70°-80°	138.8	4.0
80°-90°	29.8	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1252.3	35.8
0°-40°	1924.9	55.0
0°-60°	3019.1	86.2
0°-90°	3501.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3501.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1783	1783	1783	1783	1783	
5°	1752	1750	1750	1748	1748	166
15°	1639	1639	1623	1606	1600	461
25°	1420	1412	1390	1340	1303	652
35°	1152	1144	1089	1006	981	721
45°	884	866	792	726	697	681
55°	614	596	540	476	452	551
65°	365	344	311	318	264	360
75°	146	136	128	122	134	157
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1783.4	1783.4	1783.4	1783.4	1783.4
2.5°	1771.0	1771.0	1771.0	1768.9	1768.9
5°	1752.4	1750.4	1750.4	1748.3	1748.3
7.5°	1738.0	1735.9	1733.9	1731.8	1727.7
10°	1717.4	1717.4	1715.3	1705.0	1703.0
12.5°	1684.4	1682.3	1674.1	1659.7	1655.5
15°	1639.0	1639.0	1622.6	1606.1	1599.9
17.5°	1589.6	1587.5	1566.9	1550.4	1542.1
20°	1536.0	1531.8	1511.2	1484.4	1470.0
22.5°	1476.2	1476.2	1451.4	1416.4	1401.9
25°	1420.5	1412.3	1389.6	1340.1	1303.0
27.5°	1356.6	1344.2	1319.5	1249.4	1206.1
30°	1286.5	1280.3	1245.3	1154.5	1121.6
32.5°	1220.5	1210.2	1173.1	1078.3	1051.5
35°	1152.5	1144.2	1088.6	1006.1	981.4
37.5°	1084.4	1074.1	1004.0	938.1	907.1
40°	1016.4	1004.0	927.8	868.0	835.0
42.5°	952.5	936.0	861.8	797.9	760.8
45°	884.5	865.9	791.7	725.7	696.9
47.5°	816.4	799.9	731.9	663.9	630.9
50°	744.3	729.8	668.0	600.0	564.9
52.5°	684.5	661.8	602.0	534.0	505.1
55°	614.4	595.8	540.2	476.3	451.5
57.5°	550.5	531.9	480.4	420.6	400.0
60°	490.7	463.9	420.6	369.0	352.5
62.5°	424.7	404.1	367.0	323.7	344.3
65°	364.9	344.3	311.3	317.5	263.9
67.5°	298.9	288.6	259.8	230.9	222.7
70°	243.3	230.9	220.6	189.7	181.4
72.5°	193.8	181.4	167.0	150.5	144.3
75°	146.4	136.1	127.8	121.6	134.0
77.5°	101.0	96.9	90.7	84.5	82.5
80°	66.0	63.9	61.9	59.8	57.7
82.5°	39.2	39.2	39.2	39.2	39.2
85°	20.6	22.7	24.7	26.8	28.9
87.5°	12.4	12.4	14.4	16.5	18.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)